

No.

9400028



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**DEKAR Genetics Corporation**

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLACEMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE SAID APPLICANT(S) TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'CX232'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of March in the year of our Lord one thousand nine hundred and ninety-six.

Attest:

*Marsha A. Stanton*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Earl B. Tamm*  
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)  <div style="text-align: center;">DEKALB Genetics Corporation</div>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.  <div style="text-align: center;">EX123</div>	3. VARIETY NAME  <div style="text-align: center;">CX232</div>																																																
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 3100 Sycamore Road DeKalb, IL 60115		5. PHONE (Include area code)  <div style="text-align: center;">815/758-3461</div>																																																	
6. GENUS AND SPECIES NAME  <div style="text-align: center;">Glycine max L. Merr.</div>		7. FAMILY NAME (Botanical)  <div style="text-align: center;">Leguminosae</div>																																																	
8. CROP KIND NAME (Common Name) <div style="text-align: center;">Soybean</div>		9. DATE OF DETERMINATION  <div style="text-align: center;">Summer 1991</div>																																																	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.)  <div style="text-align: center;">Corporation</div>		<div style="border: 1px solid black; padding: 5px;"> <b>FOR OFFICIAL USE ONLY</b>            PVPO NUMBER   <div style="text-align: center; font-size: 1.2em;">9400028</div> </div> <div style="border: 1px solid black; padding: 5px;"> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%; text-align: center;">F</td> <td style="width:15%;">Date</td> <td style="width:80%;">Nov. 26, 1993</td> </tr> <tr> <td style="text-align: center;">I</td> <td>Time</td> <td>10:30 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.</td> </tr> <tr> <td style="text-align: center;">L</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">I</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">N</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">G</td> <td></td> <td></td> </tr> </table> </div> <div style="border: 1px solid black; padding: 5px;"> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%; text-align: center;">F</td> <td style="width:15%;">Filing and Examination Fee:</td> <td style="width:80%;">\$2325.00</td> </tr> <tr> <td style="text-align: center;">E</td> <td>Date</td> <td>Nov. 16, 1993</td> </tr> <tr> <td style="text-align: center;">E</td> <td>Certificate Fee:</td> <td>\$300.00</td> </tr> <tr> <td style="text-align: center;">R</td> <td>Date</td> <td>FEB. 26, 1996</td> </tr> <tr> <td style="text-align: center;">C</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">E</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">I</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">V</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">E</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">D</td> <td></td> <td></td> </tr> </table> </div>		F	Date	Nov. 26, 1993	I	Time	10:30 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.	L			I			N			G			F	Filing and Examination Fee:	\$2325.00	E	Date	Nov. 16, 1993	E	Certificate Fee:	\$300.00	R	Date	FEB. 26, 1996	C			E			I			V			E			D		
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11. IF INCORPORATED, GIVE STATE OF INCORPORATION <div style="text-align: center;">Delaware</div>		12. DATE OF INCORPORATION  <div style="text-align: center;">June 15, 1988</div>																																																	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Mr. Robert E. Roman, Jr., Assistant General Counsel DEKALB Genetics Corporation 3100 Sycamore Road DeKalb, IL 60115																																																			
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse) <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">           a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety.            b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement.            c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety.            d. <input type="checkbox"/> Exhibit D, Additional Description of Variety.            e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership.            f. <input checked="" type="checkbox"/> Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____            g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."         </div> <div style="width: 35%; text-align: right;">           PHONE (Include area code) 815/758-3461         </div> </div>																																																			
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.) <div style="display: flex; justify-content: space-around;"> <input type="checkbox"/> YES (If "YES," answer items 16 and 17 below)           <input checked="" type="checkbox"/> NO (If "NO," skip to item 18 below)         </div>																																																			
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <div style="display: flex; justify-content: space-around;"> <input type="checkbox"/> YES           <input type="checkbox"/> NO         </div>		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <div style="display: flex; justify-content: space-around;"> <input type="checkbox"/> FOUNDATION           <input type="checkbox"/> REGISTERED           <input type="checkbox"/> CERTIFIED         </div>																																																	
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <div style="display: flex; justify-content: space-around;"> <input type="checkbox"/> YES (If "YES," through <input type="checkbox"/> Plant Variety Protection Act <input type="checkbox"/> Patent Act. Give date: _____)           <input checked="" type="checkbox"/> NO         </div>																																																			
19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <div style="display: flex; justify-content: space-around;"> <input checked="" type="checkbox"/> YES (If "YES," give names of countries and dates) U.S.A., spring 1993           <input type="checkbox"/> NO         </div>																																																			
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.																																																			
SIGNATURE OF APPLICANT (Owner(s)) <div style="text-align: center; font-family: cursive;">Robert Mark Lawson</div>		CAPACITY OR TITLE <div style="text-align: center;">DIRECTOR, RESEARCH OPERATIONS</div>																																																	
SIGNATURE OF APPLICANT (Owner(s))		DATE <div style="text-align: center;">10-27-93</div>																																																	

**EXHIBIT A****Origin and Breeding History****CX232**

CX232 is a early to mid Group II variety derived from a cross between A3127 and a selection from a cross between CM385 and CM399. CM385's parents were IVR2110 and Calland. CM399's parents were Mitchell x Cutler 71.

Summer 1983	F1 made
Winter 1983	F1 and F2 generation advance
Summer 1984	F3 bulk population grown. Individual plants harvested.
Summer 1985	F4 bulk seed from individual F3 plants yield tested
Summer 1986	F5 bulk seed from individual F3 plants yield tested
Summer 1987	Individual F6 plants selected from F5 bulk seed derived from an individual F3 plant and seed bulked
Summer 1988	F6 selection yield tested
Summer 1989	Bulk F6 seed yield tested
Summer 1990	Bulk F7 seed from F6 generation yield tested
Summer 1991	Bulk F8 seed from F6 selection yield tested. Selection was given experimental designation.
Summer 1992	Bulk F9 seed from F6 selection yield tested.
Summer 1993	EX123 given commercial designation CX232

**Statement of Stability and Uniformity**

Soybean variety CX232 has been judged to be uniform for breeding use and testing after seven (7) generations of selfing. CX232 was reproduced and judged uniform and stable for an additional one generation.

**Statement of Variants**

CX232 shows no variants other than what would normally be expected due to environment or that would occur for almost any characteristic during the course of repeated sexual reproduction.

NOVELTY STATEMENT

CX232 most closely resembles CX210; however, CX232 has brown hila, whereas CX210 has black hila.

Exhibit E

*- replaced 1/26/96*

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

DEKALB Genetics Corporation has purchased sole rights to variety CX232 from the originator.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, MEAT, GRAIN & SEED DIVISION  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) DEKALB Genetics Corporation	TEMPORARY DESIGNATION EX123	VARIETY NAME CX232
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 3100 Sycamore Road DeKalb, IL 60115		FOR OFFICIAL USE ONLY PVPO NUMBER 9400028

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,  ). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)  
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)  
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow      2 = Green      3 = Brown      4 = Black      5 = Other (Specify) \_\_\_\_\_

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')      2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff      2 = Yellow      3 = Brown      4 = Gray      5 = Imperfect Black      6 = Black      7 = Other (Specify) \_\_\_\_\_

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow      2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low      2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1<sup>a</sup>)      2 = Type B (SP1<sup>b</sup>)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')      2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')  
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')  
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate      2 = Oval      3 = Ovate      4 = Other (Specify) \_\_\_\_\_

## 11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')  
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

## 12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')  
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

## ★ 13. FLOWER COLOR:

☐ 2

1 = White

2 = Purple

3 = White with purple throat

## ★ 14. POD COLOR:

☐ 2

1 = Tan

2 = Brown

3 = Black

## ★ 15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

## 16. PLANT TYPES:

☐ 31 = Slender ('Essex'; 'Amsoy 71')  
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

## ★ 17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

## ★ 18. MATURITY GROUP:

☐ 5

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

## ★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

## BACTERIAL DISEASES:

★

☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycines*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

## FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septaria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐ 0

Race 1

☐ 0

Race 2

☐ 0

Race 3

☐ 0

Race 4

☐ 0

Race 5

☐ 0

Other (Specify)

☐ 0Target Spot (*Corynespora cassicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)

★

☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☐ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

## 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

## FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 1 Race 1 ☐ 0 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 0 Race 5 ☐ 0 Race 6 ☐ 1 Race 7
- ☐ 0 Race 8 ☐ 0 Race 9 ☐ Other (Specify) \_\_\_\_\_

## VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

## NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 0 Race 3 ☐ 0 Race 4 ☐ Other (Specify) \_\_\_\_\_
- ☐ 0 Lance Nematode (*Hoplaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): \_\_\_\_\_

## 20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 1 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) \_\_\_\_\_

## 21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) \_\_\_\_\_

## 22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

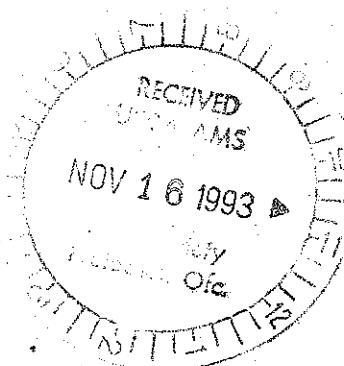
CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape		Seed Coat Luster	CX210
Leaf Shape		Seed Size	NKS23-03
Leaf Color		Seed Shape	A2396
Leaf Size		Seedling Pigmentation	

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
EX123 Submitted	0	1	80			35.3	18.6	17.3	2.5
CX210 Name of Similar Variety	0	2	100			34.6	20.5	14.6	2.5

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A<sub>2</sub> in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.





94 00028

**EXHIBIT E****Statement of the Basis of Applicant's Ownership**

CX232 was developed by another company. The original company is a U.S. national company. By agreement between the original company and DEKALB Genetics Corporation, all rights have been assigned to DEKALB Genetics Corporation.